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Key Findings

Incidence Rate - Overall

The overall incidence rates of chlamydia, gonorrhea and syphilis from 2015 to 2020 were higher in St. Louis City than the state of Missouri and nationally. The highest rates of STIs, HIV and Hepatitis C infections occur in the northern region of the city. The same geographical area also has a high prevalence of repeated infections, particularly in chlamydia and gonorrhea.

In 2020:

- Chlamydia: 1,210.4 per 100,000 population
- Gonorrhea: 836.9 per 100,000 population
- Syphilis: 95.4 per 100,000 population
- HIV: 21.7 per 100,000 population
- Hepatitis C: 98.9 per 100,000 population

Incidence Rate – Demographics

- **Chlamydia/Gonorrhea/Syphilis:** African-Americans or Black residents have the highest incidence rate of these three Sexual Transmitted Infections (STIs) compared to other races, more than three times the rate of Caucasians or Whites.
 - The 15-24 age group has the highest incidence rate of STIs, followed by the 24-44 age group. Extreme age groups (below 15 and above 45 years) have the lowest incidence rate of STIs.
 - Chlamydia is higher among women, while gonorrhea and syphilis are high among men.
- **HIV:** Incidence rates decreased progressively from 2016 through 2020, with the highest incidence rate observed in 2016.
 - Incidence rates in men were much higher than in women; the highest incidence rate was 66.4 per 100,000 population for men in 2016, whereas for women it was 13.7 per 100,000 population in the same year.

- Blacks have the highest incidence rate, which is around three times higher compared to Whites.
- **Chronic Hepatitis C:** Incidence rates were not calculated; please see “Case Counts and Mortality” for further demographic information.

Case Counts and Mortality

- **HIV/AIDS mortality:** Men have three to five times higher mortality counts than women. The highest count was 50 in 2017, which decreased to the lowest count of 36 in 2018. Men who have sex with men (MSM) have the highest mortality counts compared to other modes of HIV transmission in the category, followed by heterosexual men and injection drug users (IDU).
- **Chronic hepatitis C:** Counts for 2016-2020 have gradually decreased from a high of 704 case counts in 2016 to 305 cases in 2020. Hepatitis C case counts are higher in men than women from 2016-2020. Case counts of hepatitis C are highest in the age group of 40 years and above from 2016 through 2020, with more cases among Blacks than Whites.

Data Limitation

While ethnicity (Hispanic vs Non-Hispanic) has been captured in the data, race is incomplete, with Latinx missing in its entirety.

For Consideration

- Outreach and prevention interventions and program evaluations have largely been halted by the COVID-19 pandemic. While all individual-, group-, and community-level interventions are evidence-based, grant-funded, and align with the Missouri Department of Health and Senior Services and the Centers for Disease Control and Prevention directives, the impact of these programs has not been properly measured.

1.0 Introduction

Sexually Transmitted Infections (STIs) are passed from one person to another through sexual contact including vaginal, oral and anal sex. They can also be passed from one person to another through intimate physical contact, such as heavy petting; however, this is not very common. STIs can also be transmitted through nonsexual activities, such as blood transfusions or prenatally. STIs do not always cause symptoms or may only cause mild symptoms, so it is possible to be infected and unaware¹.

The United States (U.S.) has recently witnessed an alarming increase in STIs. Chlamydia, gonorrhea and syphilis are the most common diseases transmitted². According to the CDC's National STI Surveillance 2019 report, there were 1.8 million chlamydia cases (19% increase from 2015), 616,392 gonorrhea cases (56% increase from 2015), and 129,813 syphilis cases (74% increase from 2015)².

The CDC estimates that by the end of 2019, 1,189,700 people in the U.S. received a diagnosis of Human Immunodeficiency Virus (HIV), with 65% of the affected cases transmitted through male-to-male sexual contact. It is believed that only 87% of people living with HIV are aware of their diagnosis³.

The hepatitis virus is the commonest viral organism that causes inflammation of the liver. There are five types of hepatitis virus; Hepatitis A virus, Hepatitis B virus, Hepatitis C virus, Hepatitis D virus, and Hepatitis E virus. Hepatitis B and C are common types of viral hepatitis in the U.S., mainly transmitted parenterally (through sharing needles, syringes or other drug-injection equipment) and sexually. Hepatitis B is spread through infected blood, semen, or other body fluids, and at present is incurable. Perinatal hepatitis B is passed from a positive mother to her child at birth. Hepatitis C is primarily spread by

¹ CDC (2016). Sexually Transmitted Diseases: Diseases and Related Conditions

<https://www.cdc.gov/STI/general/default.htm>

² National Academic of Sciences, Engineering, and Medicine (2021). Sexually transmitted infections: Adopting a sexual health paradigm. Washington, DC: The national Academies Press

<https://www.cdc.gov/std/statistics/2019/default.htm>

³ Diagnoses of HIV Infection in the United States and Dependent Areas 2019 <https://www.cdc.gov/hiv/library/reports/hiv-surveillance/vol-32/index.html>

contact with infected blood, and can be cured with treatment. About 20,700 cases of acute hepatitis B and 57,000 cases of acute hepatitis C were reported by the CDC in 2019⁴.

1.1 Purpose

The purpose of this report is to describe STI and hepatitis disease profiles in residents of the City of St. Louis, and to highlight areas where spread of infection is of particular concern. Its intended audience are the public and policymakers; to that end, the data presented here are reflective of demographic disparities in disease incidence.

It is urgent that evidence-based programs and interventions to reduce the burden of disease in the City of St. Louis are designed, implemented, and supported by all residents. This aligns with the mission of the City of St. Louis Department of Health:

To assure a healthy St. Louis community through quality public health services and partnerships by providing continuous protection, prevention, and promotion for the public's health.

1.2 Study Area Demographics

St. Louis City is the second-largest city in Missouri, with 308,576 residents (48.3% men and 51.7% women). Median resident age is lower (36.4) compared with the median age of Missouri (38.9). Well-represented races in the City are Whites (48.1%), Blacks (45.3%), Hispanic Latinx (4.2%) and Asians (3.6%)⁵.

⁴ CDC (2019). Hepatitis Surveillance in the US

<https://www.cdc.gov/hepatitis/statistics/2019surveillance/Introduction.htm#Profile>

⁵ United States Census Bureau, American Community Survey (ACS) 2015-2019 5-year estimates, St. Louis city, Missouri (County)

2.0 Chlamydia

Figure 1 presents the overall 2019 incidence rate of chlamydia for the City of St. Louis, St. Louis county, the state and national. The incidence rate of chlamydia for the City of St. Louis is twice higher than of each of the three levels (county, state and national).

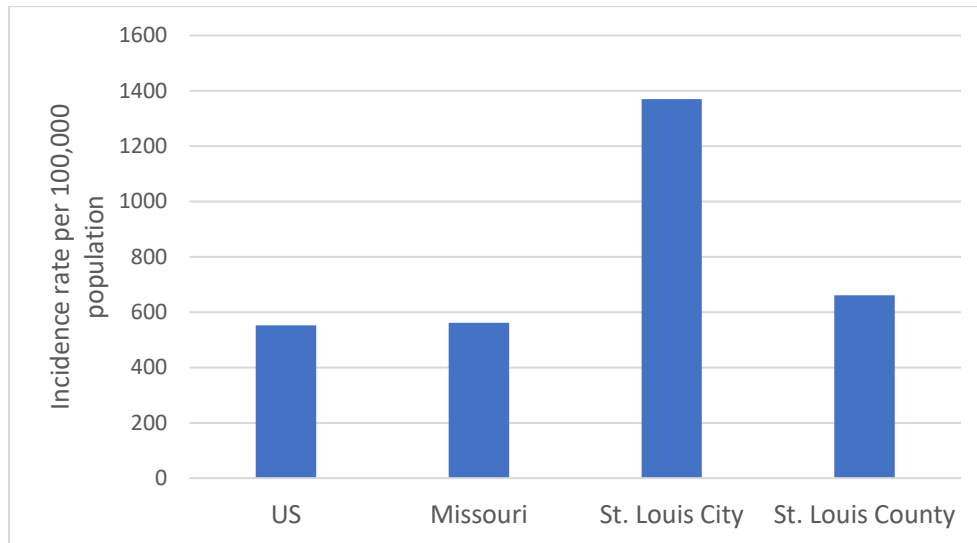


Figure 1. Chlamydia incidence rate by region, 2016-2019

In **Figure 2**, Chlamydia incidence rates for women residing in the City of St. Louis were consistently higher than men from 2016 to 2020. On average, women were 61% more likely to have chlamydia than men. That disparity narrowed from a peak difference of 63% in 2016 to 59% in 2019. The highest incidence rate was in 2018, with women having the incidence rate of 1,751 per 100,000 and for men was 1,126 per 100,000. The anatomy of women, the delicate vaginal lining and internal incubation area makes them more likely to contract chlamydia infection as opposed to men. Additionally, many men who are infected with Chlamydia are asymptomatic and don't know they are infectious⁶.

⁶ CDC Fact Sheet (2011). 10 ways STIs impact women differently from men
<https://www.cdc.gov/STI/health-disparities/STIs-women-042011.pdf>

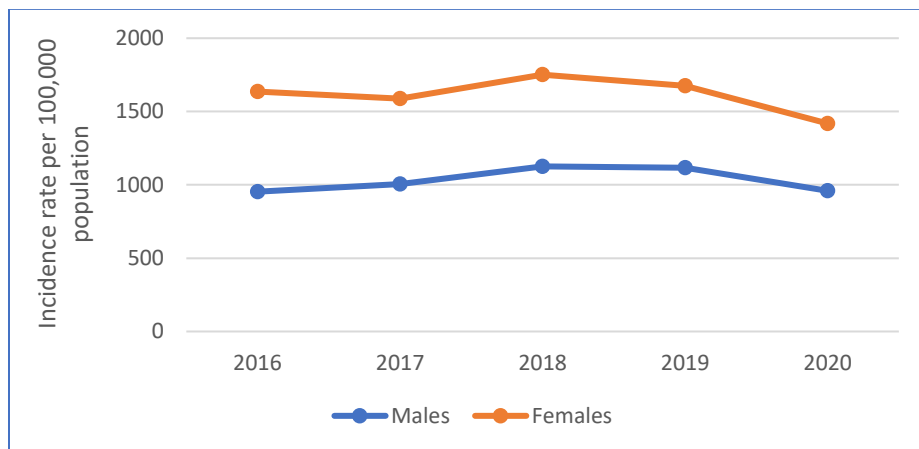


Figure 2. Chlamydia incidence rate by gender, 2016-2020

As shown in **Figure 3**, chlamydia incidence rate was the highest in the 15-24 age group, including adolescents and young adults who are more vulnerable to high-risk sexual behaviour. This age group has nearly five times the incidence rate compared with the other four age groups assessed. The incidence rate was the highest in 2018 at 7,356 per 100,000 and the lowest in 2020 with an incidence rate of 6,071 per 100,000. The second highest incidence rate was in the 25-44 age group. Extreme age groups (below 15 and above 45 years) have the lowest incidence rate of chlamydia infection.

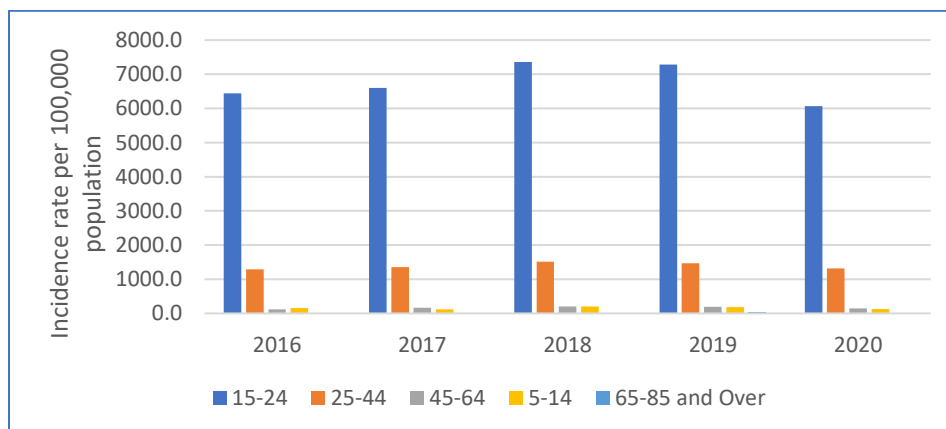


Figure 3. Chlamydia incidence rate by age group, 2016-2020

Figure 4 examines chlamydia infections by race, with Blacks having the highest incidence rate of chlamydia in all five years assessed. Infections peaked in 2018 with 2,221 incidence rate per 100,000, and the lowest was in 2020 with 1,821 incidence rate per 100,000. The incidence rate of chlamydia among Blacks was three times higher than in the Whites. Asians/Native Hawaiians have the lowest incidence rate in all five years assessed.

A substantial percentage of the population is reported as “unknown” race(s). This is likely due to missing data or misreporting of a client's race from the reporting healthcare system.

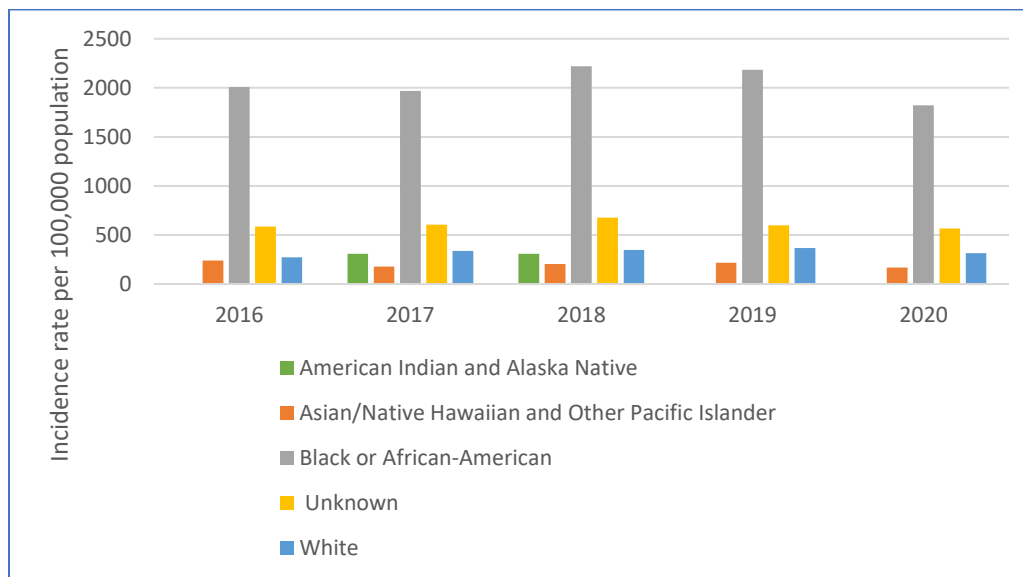


Figure 4. Chlamydia incidence rate by race, 2016-2020

The neighborhood and/or the demographic area where a person lives can also play an important role in the incidence of STIs. A map in **Figure 5** below shows that the chlamydia incidence rate was high in the northern side of the city and to some extent in the Southeastern side of the city. Zip codes 63101, 63106 and 63107 have the highest incidence of chlamydia, with a rate between 15.6 and 20.6 per 1,000 population. Zip codes in the Southwest and Central, including 63108, 63109, 63110, 63116, 63117, 63139, and 63143 have the least incidence rate below 8.6 per 1,000 population.

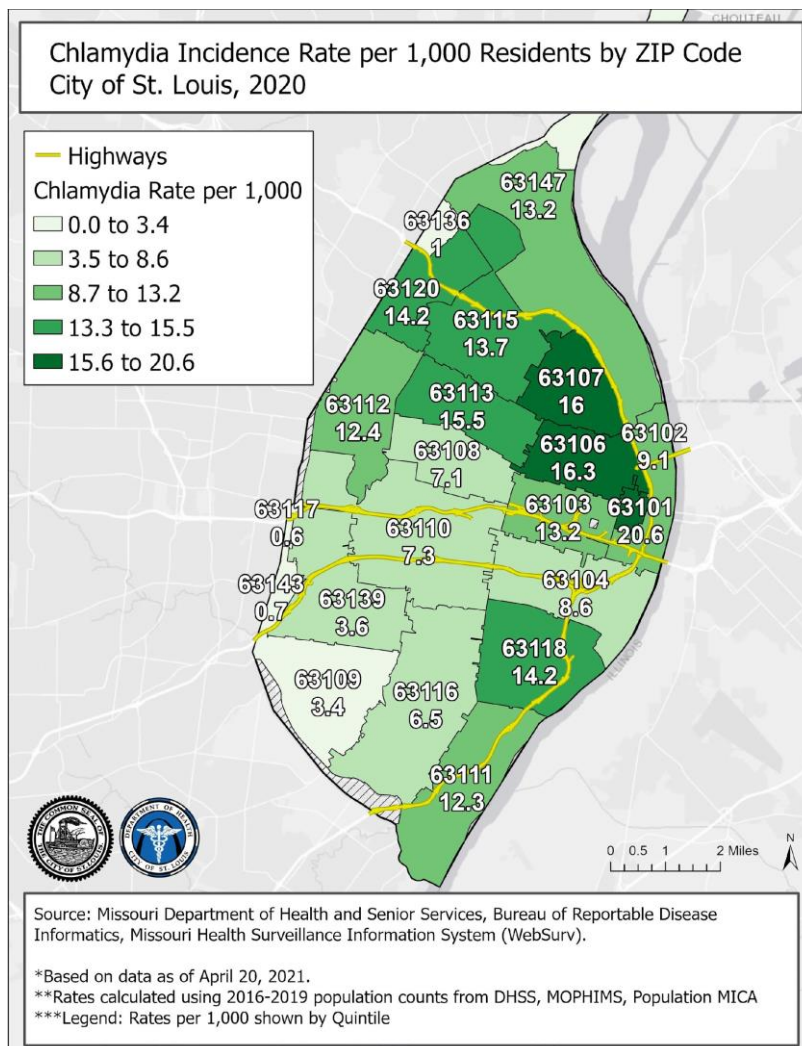


Figure 5. Chlamydia incidence rate per 1,000 residents by ZIP code

3.0 Gonorrhea

Figure 6 presents the overall 2019 incidence rate of gonorrhea for the City of St. Louis, St. Louis county, the state and national. The incidence rate of gonorrhea for the City of St. Louis is twice higher than of each of the three levels (county, state and national).

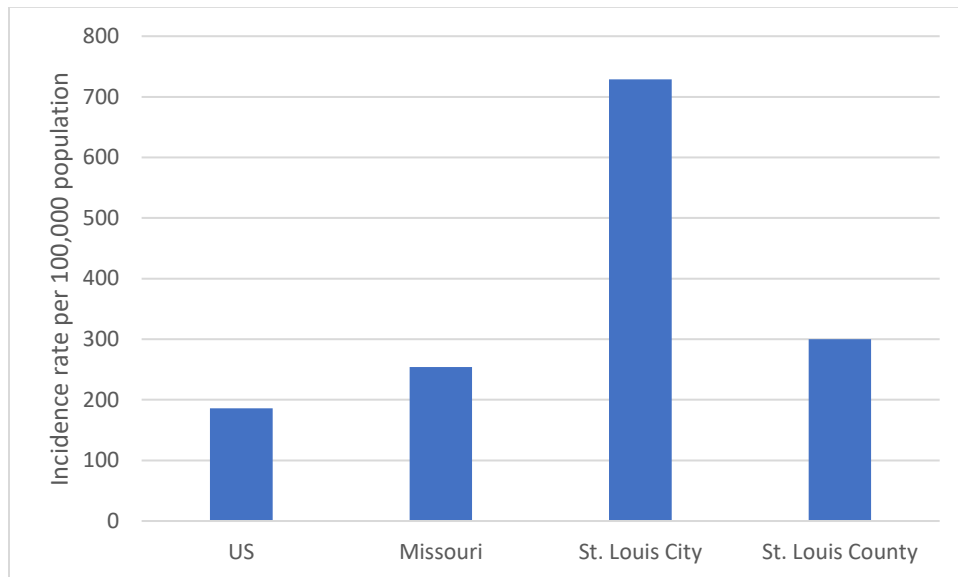


Figure 6. Gonorrhea incidence rate by region, 2015-2019

Gonorrhea incidence rates were consistently higher for men residing in the City of St. Louis than for women from 2016 to 2020 as shown in **Figure 7**. Men are two to three times more likely to get treated for gonorrhea infection compared to women; this could also be attributed to the mildness or absence of symptoms for most women⁷. The incidence rate in men was highest in 2019 with the rate of 1,039 per 100,000, and lowest in 2017 with the rate of 858 per 100,000. In women, the gonorrhea incidence rate was highest in 2020 with an incidence rate of 714 per 100,000, and the lowest in 2017 with the incidence rate of 570 per 100,000.

⁷Platt R, Rice PA, McCormack WM. Risk of acquiring gonorrhea and prevalence of abnormal adnexal findings among women recently exposed to gonorrhea. *JAMA*, 250(23), 3205–3209 (1983) at <https://www.cdc.gov/STI/gonorrhea/STIfact-gonorrhea-detailed.htm#ref6>

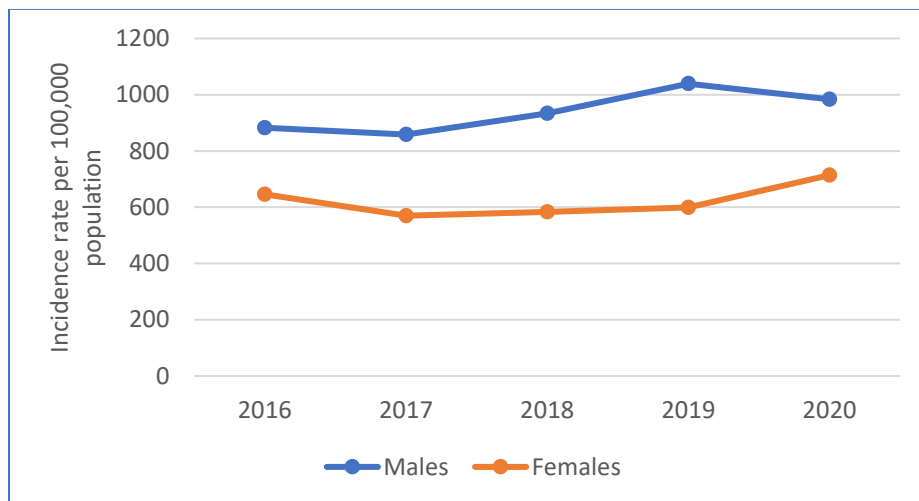


Figure 7. Gonorrhea incidence rate by gender, 2016-2020

Figure 8 shows gonorrhea incidence rate by age group from 2016-2020. The incidence rate for gonorrhea was the highest in the age group 15-24 years, about three times higher than the second highest age group of 25-44 years in 2016-2020. The highest incidence rate in the 15-24 years age group was 3,449 per 100,000 in 2020, and the lowest incidence rate in the same age group was 2,894 per 100,000 in 2017. The highest incidence rate in the 25-44 years age group was 1,149 per 100,000 in 2020, and the lowest incidence rate in the same age group was 863 per 100,000 in 2016. Extreme age groups (below 15 years and above 45 years) had the lowest overall gonorrhea incidence rate in 2016-2020.

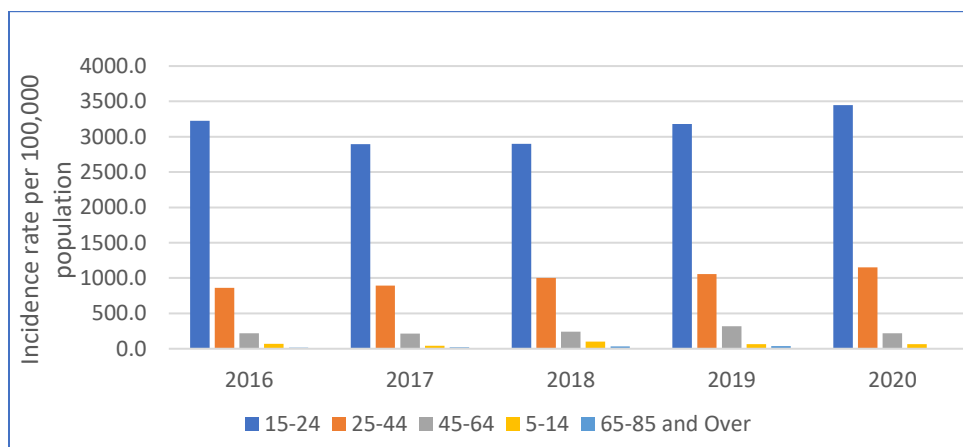


Figure 8. Gonorrhea incidence rate by age group, 2016-2020

Figure 9 shows that Black St. Louis residents have the highest incidence rate of gonorrhea in all five years assessed (2016-2020). The highest incidence rate of gonorrhea among Blacks was 1,385 per 100,000 in 2020, and the lowest incidence rate in the same population was 1,141 per 100,000 in 2017. Whites had the second-highest incidence rate of gonorrhea infection, with a high of 221 per 100,000 in 2019, and a low of 137 per 100,000 in 2016, over the 5-year time period. Asian/native Hawaiian and other Pacific Islander had the lowest incidence rate with an overall average of 95 per 100,000.

Hispanic or Latinx cases were not reported in this data, and may have been captured in part by the “unknown” race category.

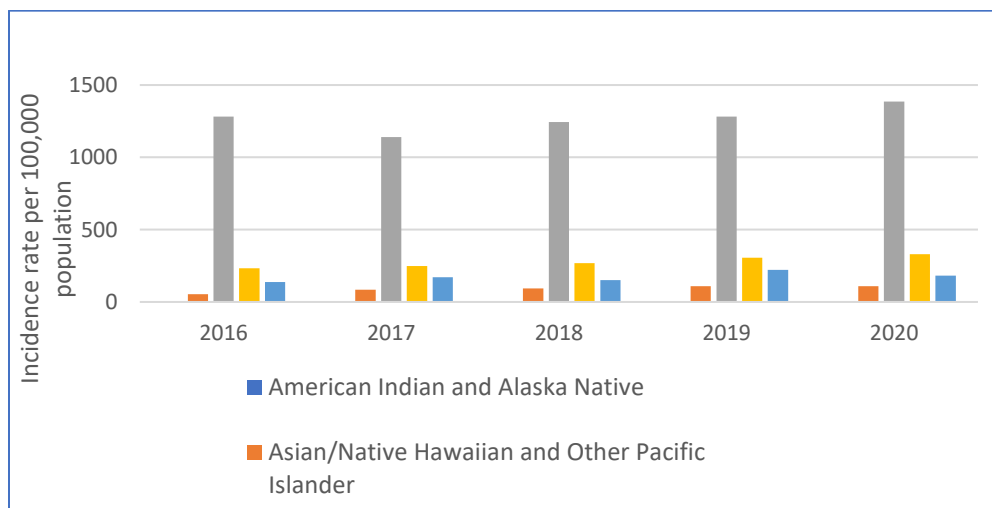


Figure 9. Gonorrhea incidence rate by race, 2016-2020

The map below (**Figure 10**) shows that the gonorrhea incidence rate was highest in the city's northern side compared with other areas of the city. Zip codes 63106, 63113 and 63118 have the highest incidence rate of gonorrhea with a rate between 11.5 and 12.6 per 1,000. Zip codes in the South and a few in the Central have a low incidence rate of gonorrhea; Zip codes 63109 and 63139 have the lowest incidence rate of 2.1 to 0.0 per 1,000.

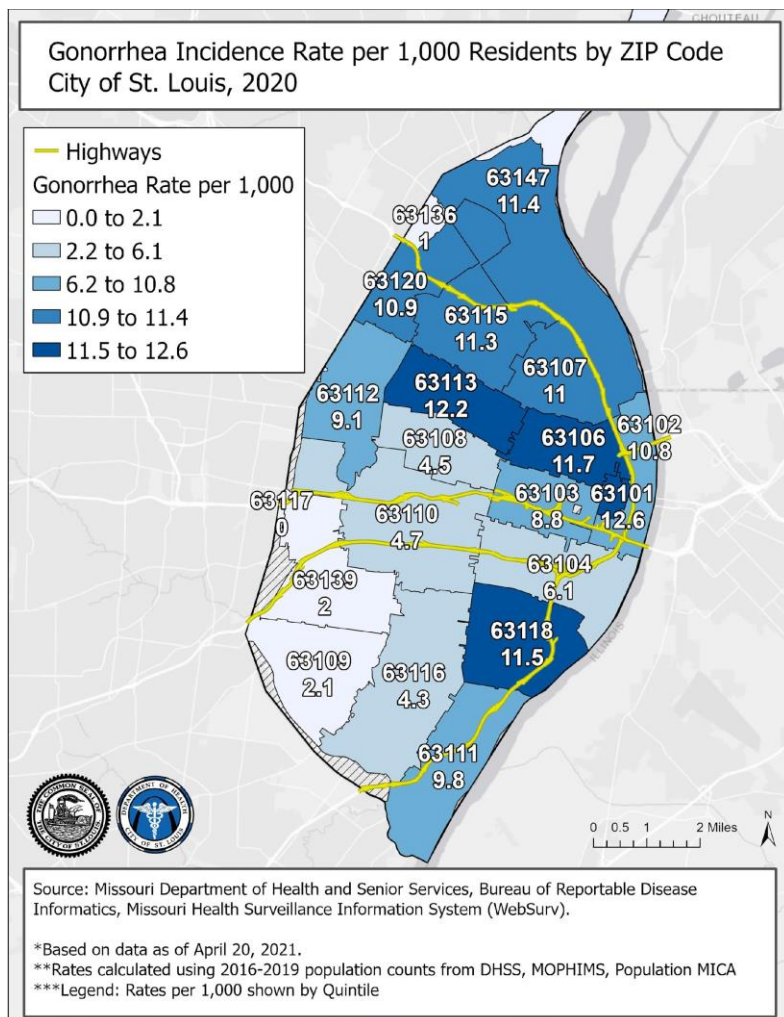


Figure 10. Gonorrhea incidence rate per 1,000 residents by ZIP code

4.0 Syphilis

Figure 11 presents the overall 2019 incidence rate of syphilis for the City of St. Louis, St. Louis county, the state and national. The incidence rate of syphilis for the City of St. Louis is two to three times higher than of each of the three levels (county, state and national).

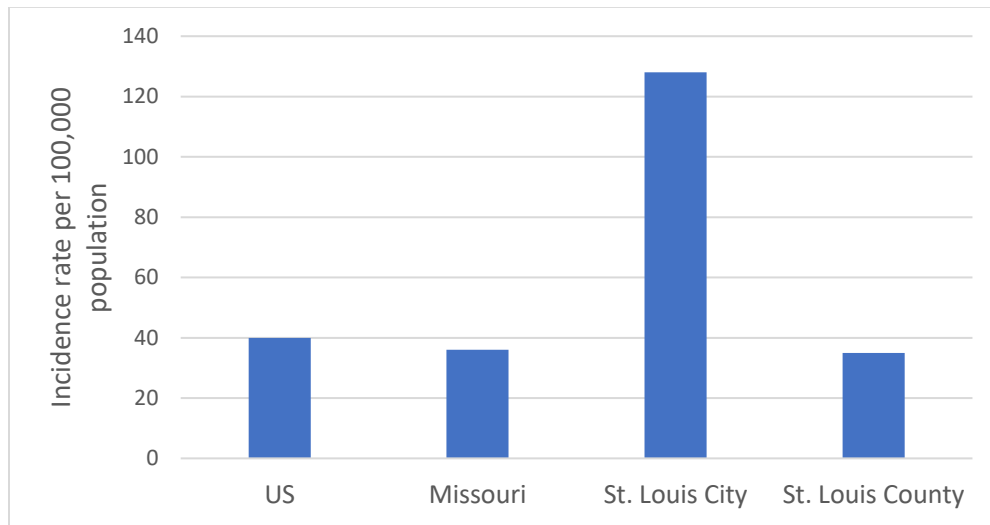


Figure 11. Syphilis incidence rate by region, 2015-2020

Figure 12 below shows that syphilis incidence rate was higher in men than women in 2016-2020. There was a sharp increase in syphilis incidence rate among men from 2016 to 2017 and a sharp decrease from 2019 to 2020. The highest syphilis incidence rate in men was 205 per 100,000 in 2019, and the lowest incidence rate was 111.4 per 100,000 in 2020. There was a gradual increase in syphilis incidence rate among women from 2016 to 2019, and has remained constant in 2020. The highest syphilis incidence rate in women was 63.8 per 100,000 in 2019 and 2020, and the lowest incidence rate was 12.6 per 100,000 in 2016.

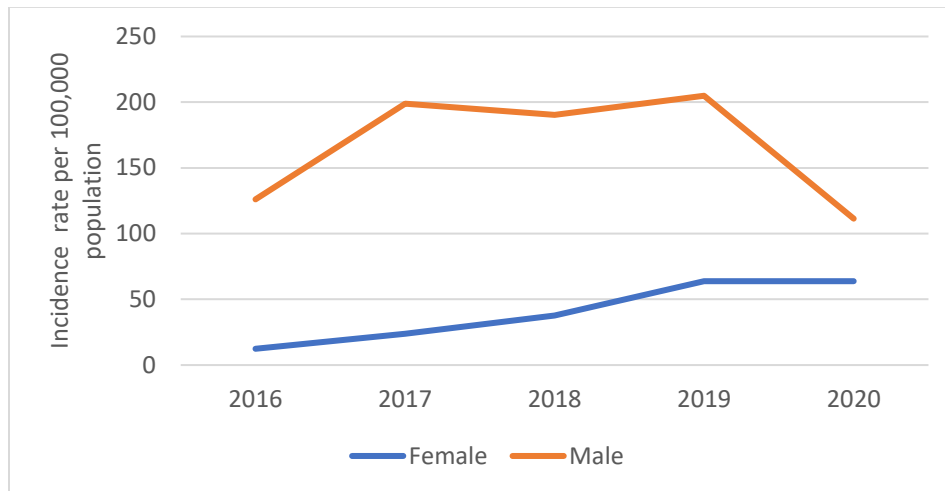


Figure 12. Syphilis incidence rate by gender, 2016-2020

Figure 13 shows the incidence rate of syphilis by age group in 2016-2020. The overall rate was higher in 25-44 years age group, followed closely by 15-24 age group. The highest syphilis incidence rate in the 25-44 years age group was 200 per 100,000 in 2019, and the lowest incidence rate in the same age group was 109 per 100,000 in 2016. The highest syphilis incidence rate in 15-24 years age group was 173 per 100,000 in 2019, and the lowest incidence rate in the same age group was 92 per 100,000 in 2020. The rates are low in 2020, and may be due to low testing observed during the COVID-19 pandemic. Extreme age groups (below 15 years and above 65 years) had the lowest overall gonorrhea incidence rate in 2016-2020.

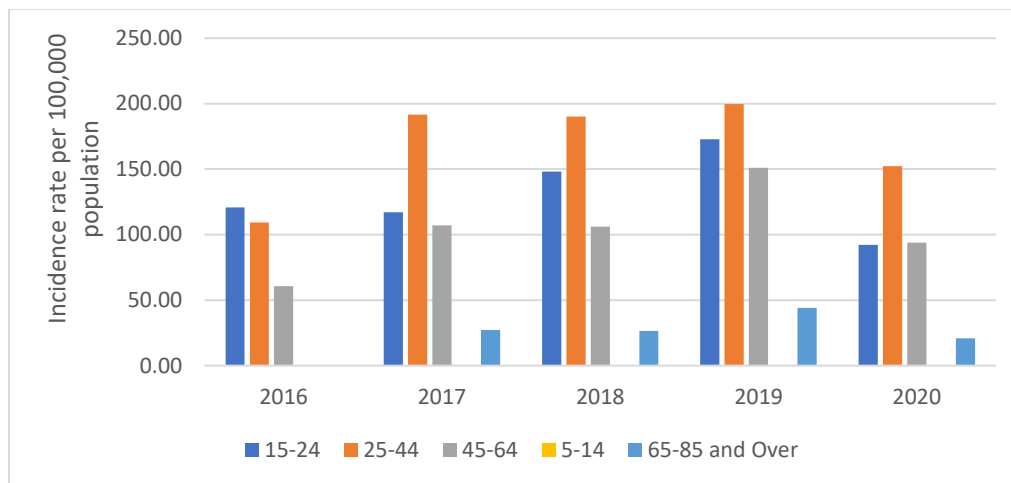


Figure 13. Syphilis incidence rate by age group, 2016-2020

Figure 14 represents trend data for the incidence rate of syphilis for the years 2016-2020. The graph shows that Black St. Louis residents have the highest incidence rates when compared with other races. The highest incidence rate of syphilis in Blacks was 204 per 100,000 in 2019, and the lowest incidence rate was 98 per 100,000 in 2016. White St. Louis residents had the second highest syphilis incidence rate, with a high of 84 per 100,000 in 2018, and a low of 34 per 100,000 in 2016. An incidence rate of zero was reported in 2016, 2017, 2018 and 2020 among Asian/native Hawaiian/Pacific Islanders. No rate was reported for the Hispanic population or the Americans Indian and Alaska native population.* Rates for “unknown” or undocumented race was reported in all five years. The lack of data for these groups may be due to misreporting of a client's race from the level of a healthcare facility or during data entry. Notably, there was a drop of syphilis incidence rate in 2020, which may be due to low testing during the COVID-19 pandemic or reduced transmission rate due to lockdown measures.

*Of note: Any demographic category with fewer than 5 cases has their case count and incidence rate suppressed to protect patient privacy.

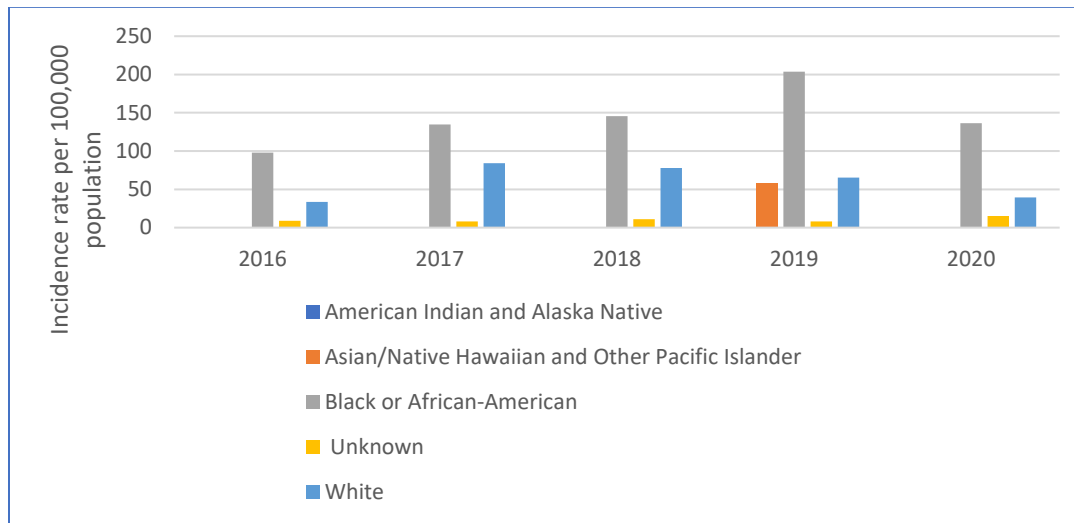


Figure 14. Syphilis incidence by race, 2016-2020

A map in **Figure 15** below shows that the syphilis incidence rate was high in the northern side of the city when compared with other areas of the city. Zip codes 63106, 63113, 63115, 63136, and 63147 have the highest incidence rate of syphilis with a rate between 1.31 and 1.43 per 1,000. Zip codes in the South and few in the Central have low incidence rate of syphilis; Zip code 63109, 63116 and 63139 have the list incidence rate of 0.001 to 0.51 per 1,000.

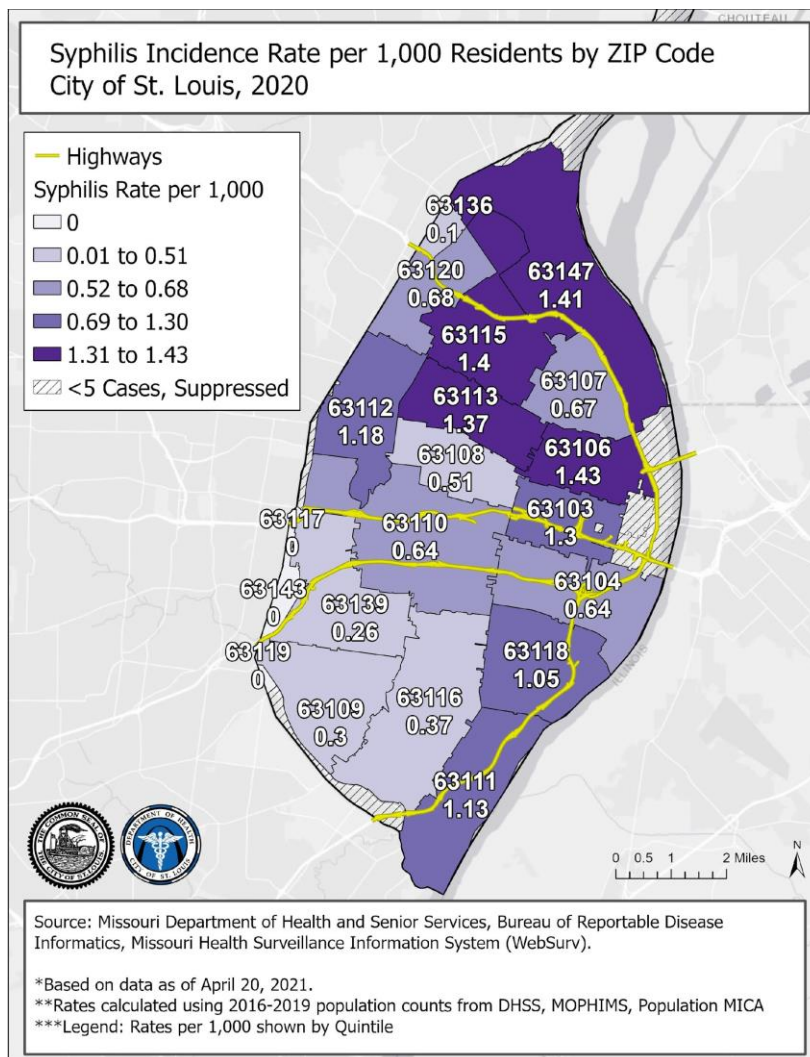


Figure 15. Syphilis incidence rate per 1,000 residents by zip code

5.0 Repeated Chlamydia, Gonorrhea and Syphilis infections

There are limited studies measuring the frequency with which persons within a population are diagnosed and reported with multiple types of STIs over time. This section presents the prevalence of having a repeated infection of either chlamydia or gonorrhea at least two times in a year. These two STI infections have the highest recurrence rate in the City of St. Louis compared with syphilis and other STI infections.

5.1 Repeated infections by sex

The recurrence of chlamydia infection (**Figure 16**) was higher in women than men through the five years. The highest prevalence of chlamydia infection among women was in 2016, with a prevalence of 130.5 per 100,000 women. The following year (2017) had the lowest recurrence of chlamydia infection with a prevalence rate of 81.8 per 100,000. The highest prevalence of chlamydia infection among men was in 2019, with a prevalence of 57.0 per 100,000.

The recurrence of gonorrhea infection (**Figure 17**) was higher in men when compared with women. The year 2019 had the highest prevalence, with a rate of 63.7 per 100,000 men. The prevalence had been steadily increasing from 2016 through 2020. The highest gonorrhea recurrence among women was 2020, with a prevalence of 41.5 per 100,000.

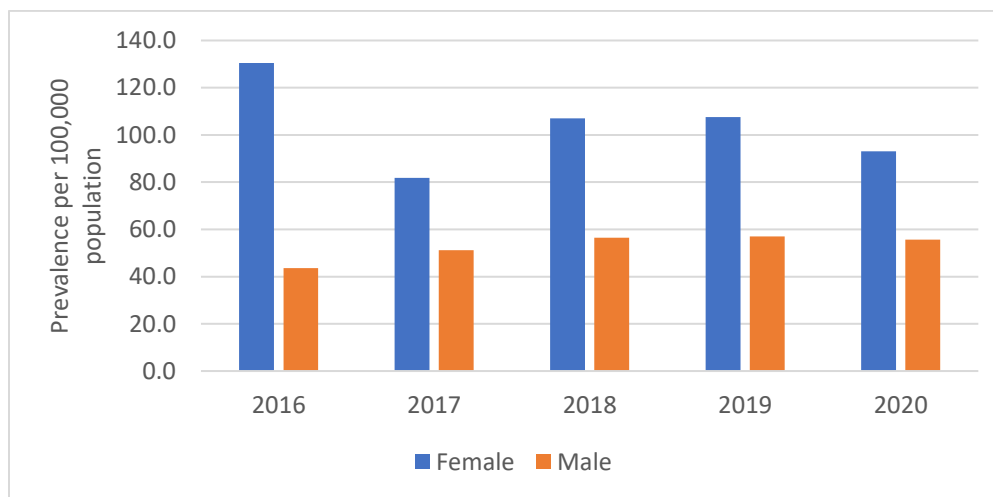


Figure 16. Prevalence of repeated Chlamydia infection by sex

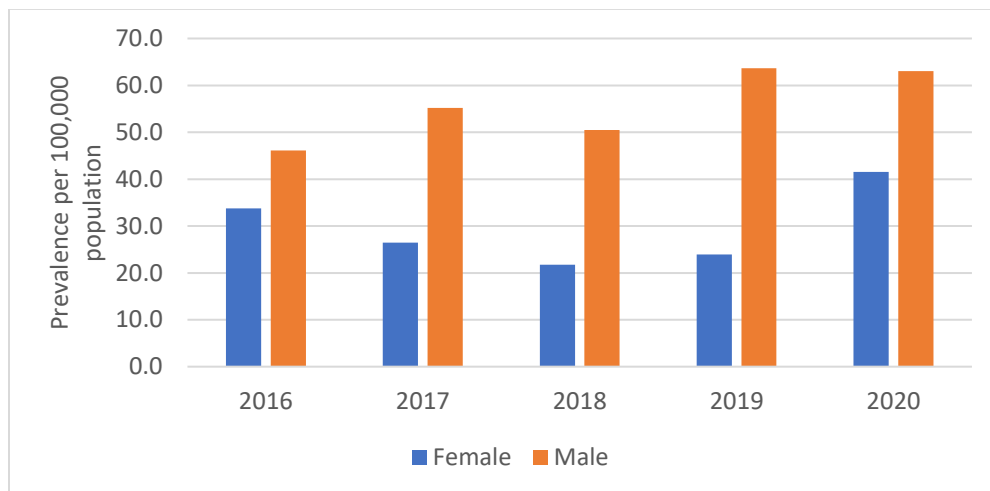


Figure 17. Prevalence of repeated gonorrhea infection by sex

5.2 Repeated infections by race

Generally, the rate of having repeated infection of either chlamydia or gonorrhea at least two times in a year was highest among Black St. Louisians, followed by Hispanics with Whites ranking third. Asian/Pacific St. Louisians, multi-race and Indian/Alaska natives had the lowest prevalence of repeated infection.

Figure 18 shows that Black St. Louis residents have the highest prevalence of chlamydia repeated infection from 2016 through 2020. The highest prevalence was in 2016, with a rate of 150.8 per 100,000. The lowest prevalence in Blacks was in 2017, with a rate of 120.1 per 100,000. The highest prevalence of chlamydia repeated infection among Hispanics was in 2018, with a rate of 56.6 per 100,000 population. The highest prevalence of chlamydia repeated infection in Whites was in 2019, with a rate of 25.8 per 100,000.

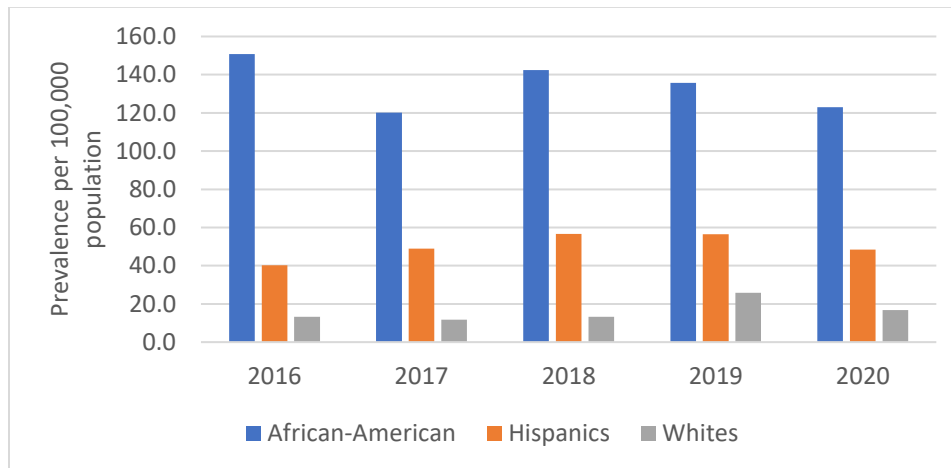


Figure 18. Prevalence of repeated Chlamydia infection by race

Figure 19 also shows that Black St. Louis residents have the highest prevalence of gonorrhea repeated infection from 2016 through 2020. The highest prevalence of gonorrhea repeated infection was in 2020, with a rate of 90.9 per 100,000. The lowest prevalence in Blacks was in 2018, with a rate of 60.9 per 100,000. Hispanics had nearly the same prevalence rate of repeated gonorrhea infection and ranges 39.9 – 40.3 per 100,000 in five years (2016-2020). The highest prevalence of gonorrhea repeated infection among Whites was in 2017, with the rate of 12.5 per 100,000.

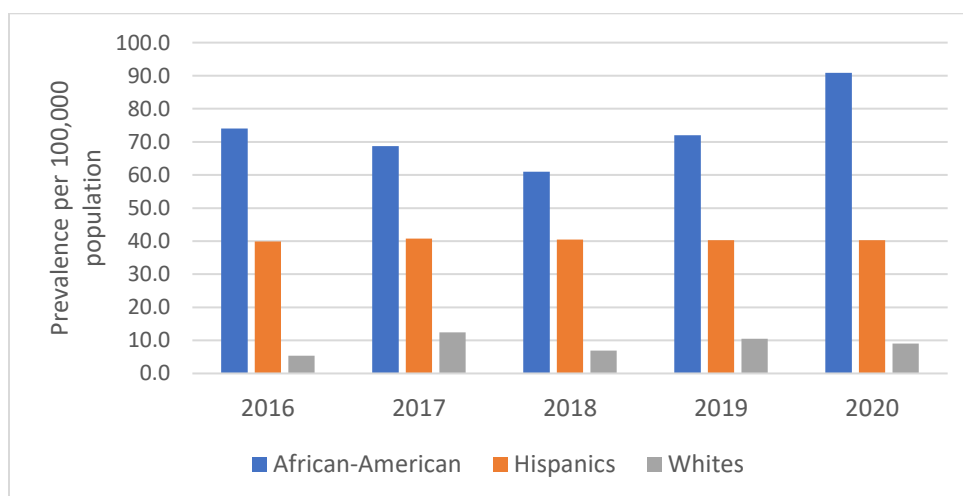


Figure 19. Prevalence of repeated gonorrhea infection by race

5.3 Repeated infections by zip codes

Figures 20 and **21** below show chlamydia and gonorrhea repeated infection by zip code. Zip codes in the northern side of the city have the highest prevalence of repeated infections to both chlamydia and gonorrhea. The zip codes with the highest prevalence of repeated infection (142.9 – 268 per 100,000 for chlamydia and 179.1 per 100,000 for gonorrhea) are 63107 and 63136.

Interpretation from the two maps presented is that the northern side of the city is likely to be a hot spot for chlamydia and gonorrhea repeated infections. An examination of contact tracing practices and case investigation may be beneficial, as well as a closer investigation of ongoing interventions.

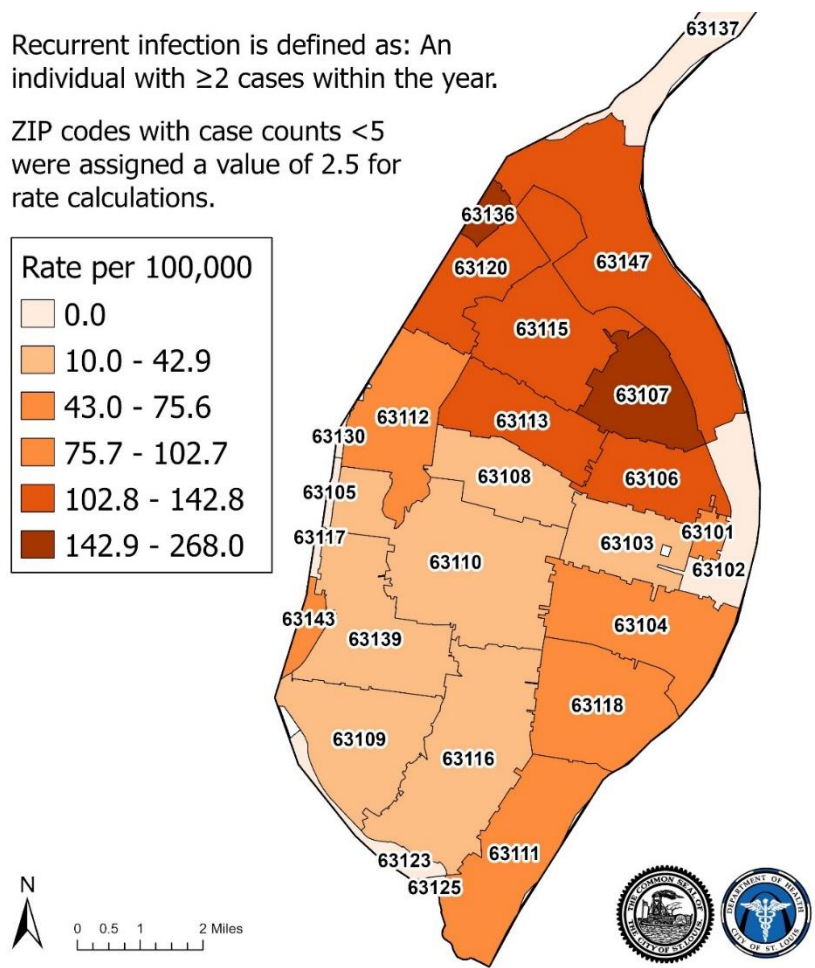


Figure 20. Rate of chlamydia recurrence in the City of St. Louis, 2020

Recurrent infection is defined as: An individual with ≥ 2 cases within the year.

ZIP codes with case counts < 5 were assigned a value of 2.5 for rate calculations.

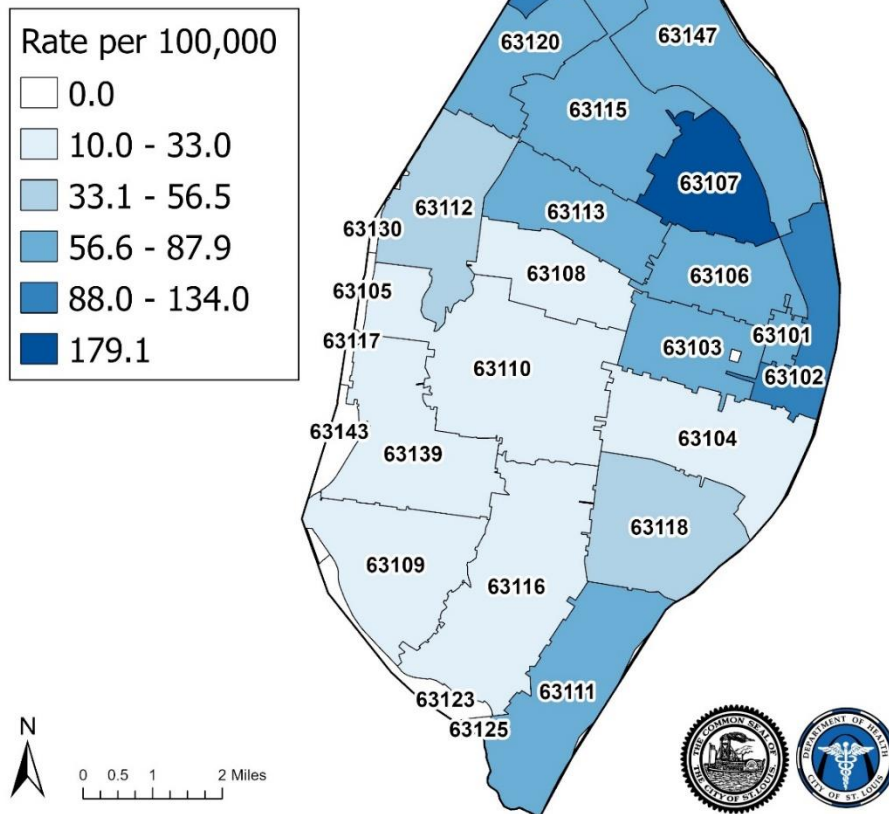


Figure 21. Rate of gonorrhea recurrence in the City of St. Louis, 2020

5.0 HIV

5.1 HIV Incidence

The incidence rate of HIV infection over five years period (2016-2020) was assessed as presented in **Figure 22**. Overall incidence decreased progressively from 2016 through 2020, with the highest incidence rate observed in 2016. Incidence rates in men were much higher than in women; the highest incidence rate was 66.4 per 100,000 in 2016,

whereas the rate for women was 13.7 per 100,000 in the same year. The lowest incidence rate in men was in 2019 and 2020, having the same rate of 35.1 per 100,000. However, the rate difference between men and women decreased from 2016 to 2019 and remained the same from 2019 to 2020.

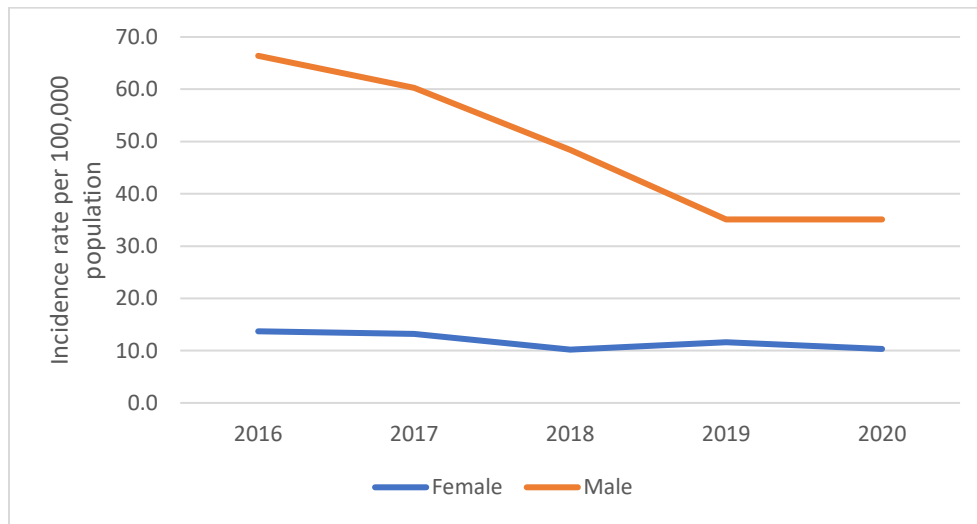


Figure 22. HIV incidence rate by gender, 2016-2020

Figure 23 represents trend data of incidence rate in HIV by race for the years 2016 to 2020. African-Americans or Blacks have the highest incidence, which is around three times higher compared to Whites. The overall HIV incidence rate decreased gradually from 2016 through 2020 among Blacks and Whites. The highest incidence rate of HIV in Blacks was 57.2 per 100,000 in 2016 and the lowest was 29.3 per 100,000 in 2020. A large number of the population were categorized as “unknown” race through the five surveyed years. Asians / Pacific islanders have very low incidence rates.

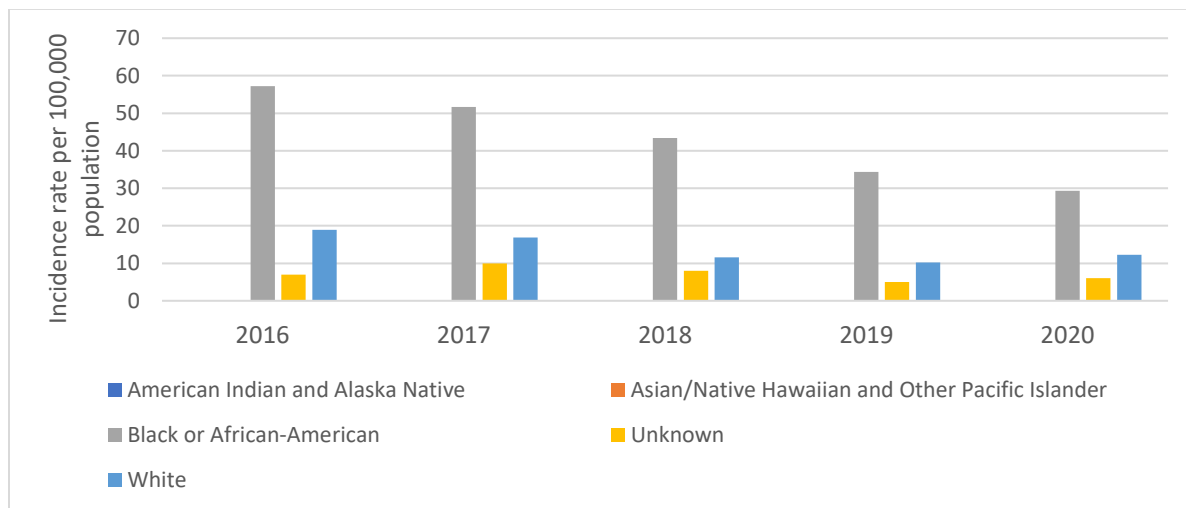


Figure 23. HIV incidence rate by race, 2016-2020

Figure 24 represents the trend data of incidence of HIV in various age groups in the years from 2016 through 2019. Unfortunately, disaggregated data is not available for the year 2020 in the provided category. The age group 25-35 years have the highest incidence rate of HIV, followed by 19-24 years. Extreme age groups (≤ 18 and ≥ 55 years) have the lowest incidence rate.

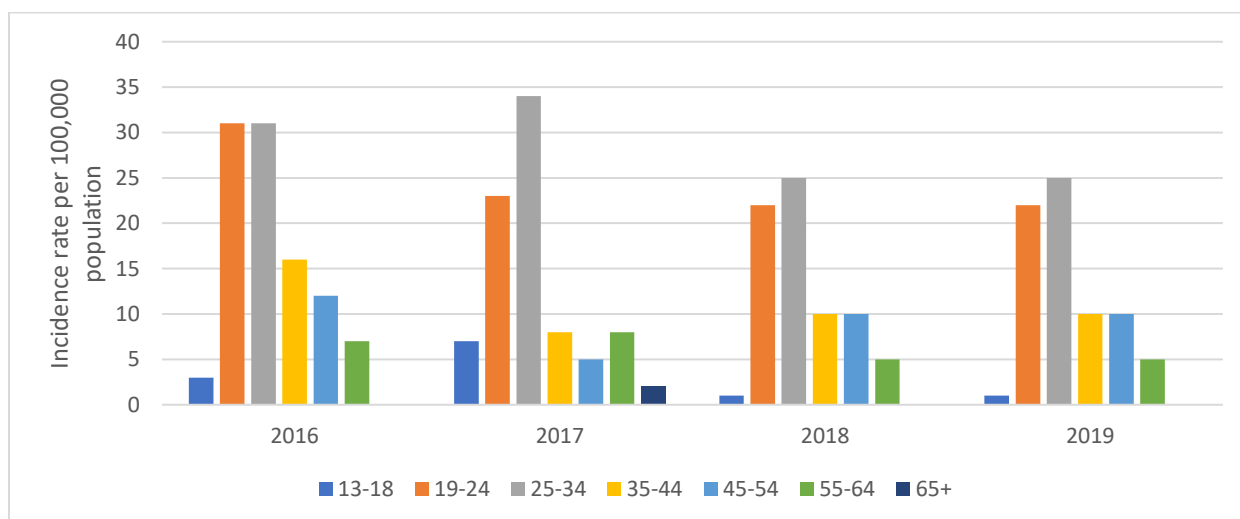


Figure 24. HIV incidence rate by age, 2016-2019

Below **Figure 25** shows that zip code areas 63113, 63115 and 63108 have higher incidence rates of HIV than other areas, which are also located in the northern side of the city.

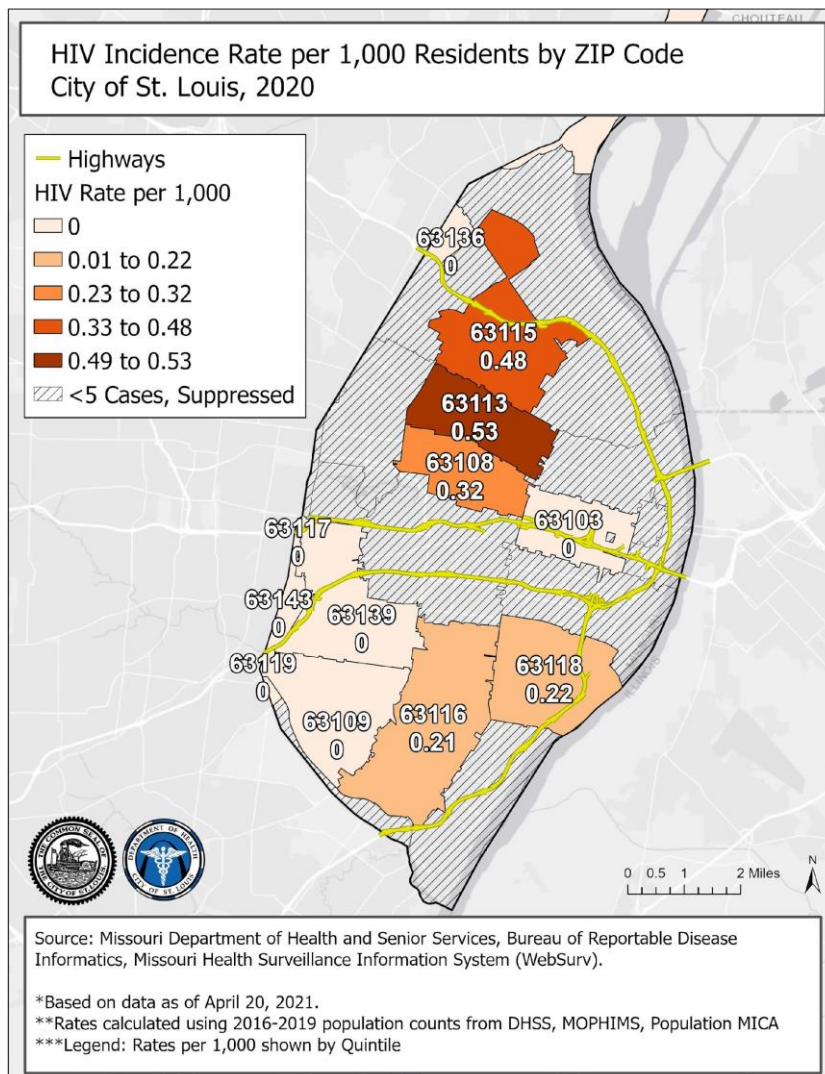


Figure 25. HIV incidence rate per 1,000 residents by zip code

5.2 HIV and AIDS mortality:

This subsection presents HIV mortality cases in the City of St. Louis. **Figure 26** represents trend data for mortality counts in the City of St. Louis for the years 2016-2020. It shows that mortality was highest in 2017 with 61 counts and the lowest counts were 19 in 2020.

Low counts in 2020 may not reflect the actual figures due to delays in reporting mortality data in the system.

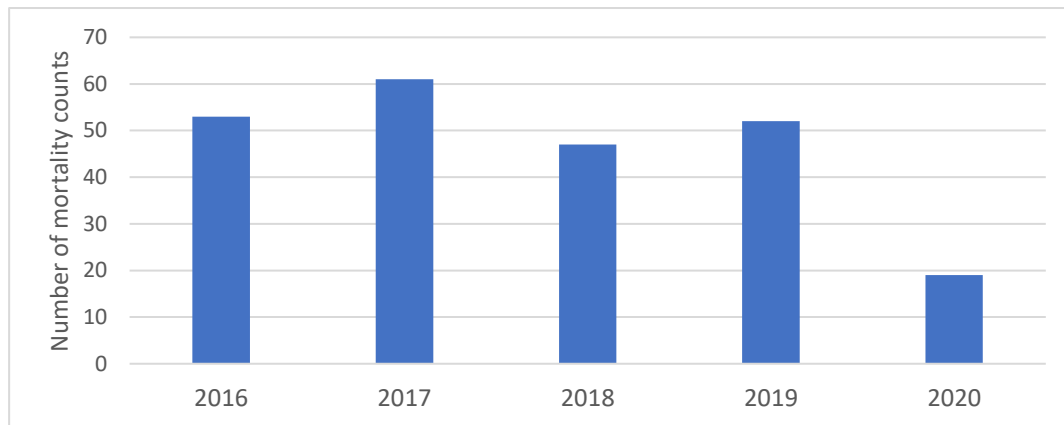


Figure 26. HIV mortality counts in St. Louis city, 2016-2020

Figure 27 below represents trend data of HIV/AIDS mortality from the years 2016 through 2018 by gender. 2019 and 2020 data is not available at a disaggregated level. Men have three to five times higher counts than women, with the highest count of 50 in 2017 and decreased to the lowest count of 36 in 2018. Mortality counts in men decreased overall from 2016 to 2018, whereas female mortality counts remained constant.

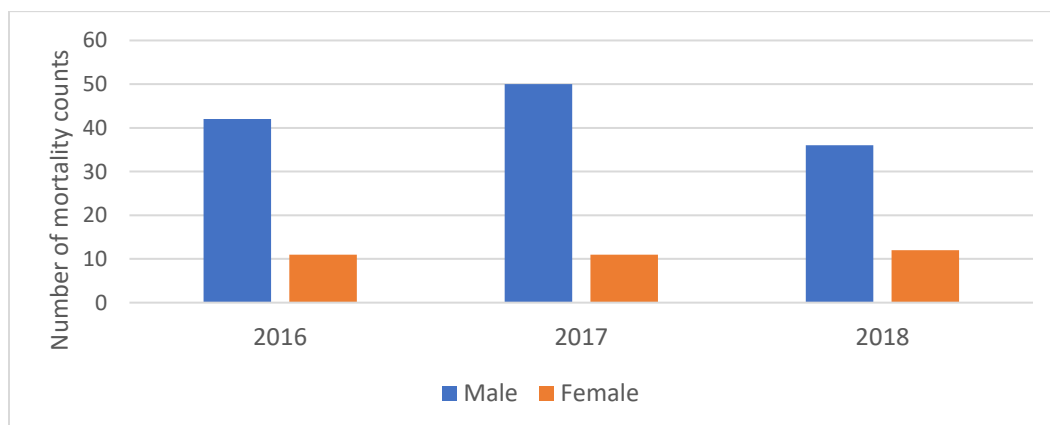


Figure 27. HIV mortality counts by gender 2016-2018

Figure 28 represents trend data of HIV/AIDS mortality from the years 2016 through 2018 by race. Trend data is not yet available at a de-aggregated level for years 2019 and 2020. African-Americans or Blacks have the highest mortality counts of 35 in 2017 followed by 32 and 30 in 2018 and 2016, respectively. Caucasian or Whites have the second highest mortality counts, with nearly 40% lower when compared with African-Americans/Blacks. Hispanics and multiracial categories have the lowest counts.

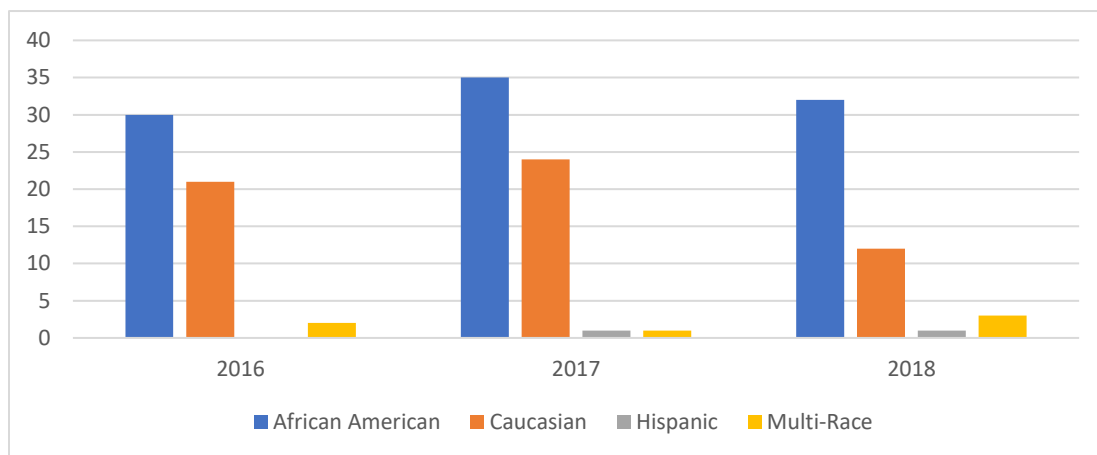


Figure 28. HIV mortality counts by race, 2016-2018

Figure 29 represents trend data of HIV/AIDS mortality from 2016 to 2018 by mode of HIV transmission. Trend data for 2019 and 2020 is not available at a de-aggregated level. Men who have sex with men (MSM) have the highest mortality counts compared to the other modes of HIV transmission in the category, followed by heterosexuals and injection drug users (IDU). MSM have almost 2-4 times higher rates compared to heterosexuals. Mortality counts are highest in MSM in 2017 but decreased by 2018. Conversely, cases in heterosexuals increased in 2018 compared to 2016 and 2017.

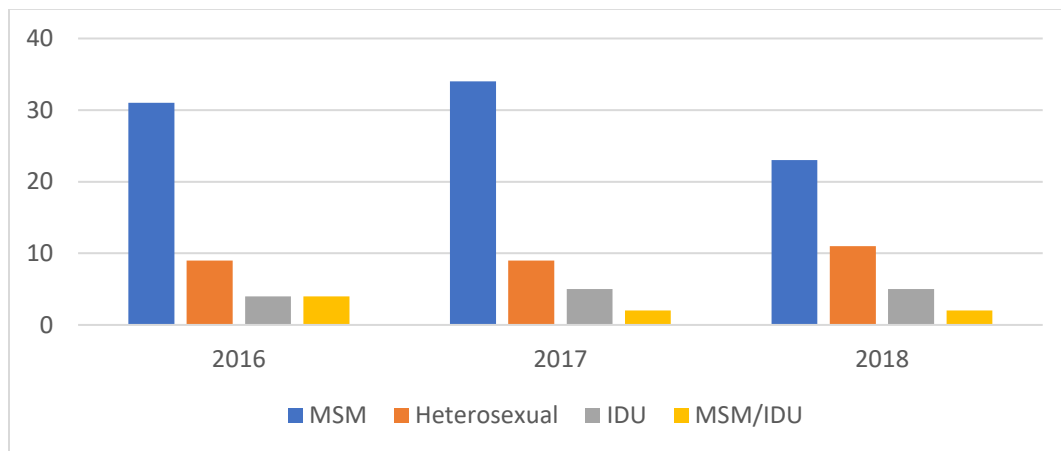


Figure 29. HIV mortality counts by the common mode of transmission, 2016-2018

6.0 Hepatitis

This section presents case counts of hepatitis B virus and hepatitis C virus. **Figure 30** shows perinatal hepatitis B case count trends in 2016-2020. The highest count of hepatitis B was 22 cases in 2017 and was followed by 2018 with 16 case counts. The lowest case count was in 2019 with total of 6 cases reported

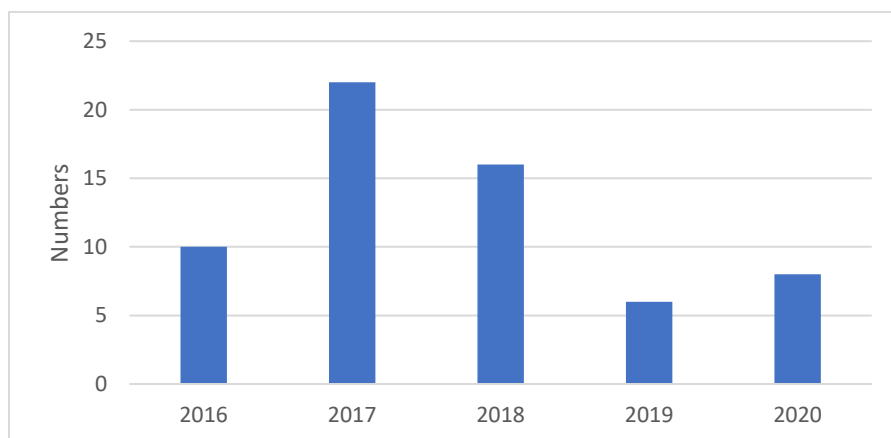


Figure 30. Perinatal Hepatitis B Counts in STL

Chronic hepatitis C case count trends for 2016-2020 are presented in **Figure 31**. The graph indicates a rapidly decreasing trend from 2016 to 2020. The highest number of case counts was 704 cases in 2016 followed by 2017 with 561 case counts then 2018 with 555 case counts. The lowest count was 305 cases in 2020.

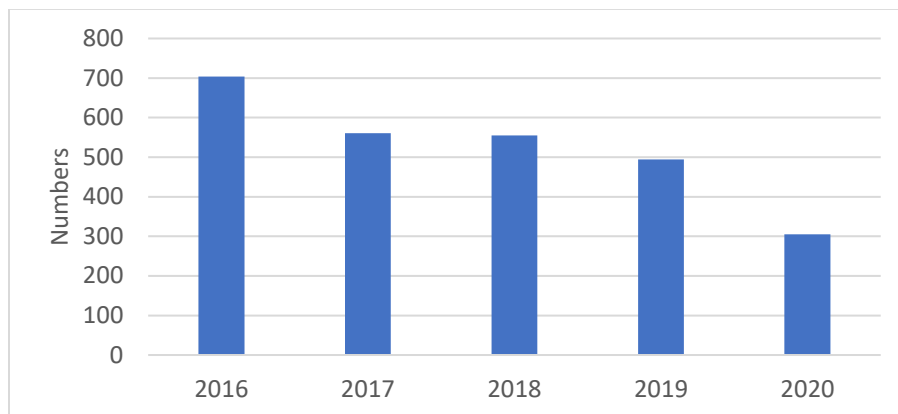


Figure 31. Chronic Hepatitis C Counts, 2016-2020

Figure 32 compares chronic hepatitis case counts by sex from 2016 to 2020. The case counts are higher in men compared to women in all years (2016-2020). The highest case count in men was 499 cases in 2016, then sharply decreased to 373 case counts in 2017. The lowest case count in men was 206 cases in 2020. The highest case count in women was 205 cases in 2016. The lowest case count in women was 99 cases in 2020

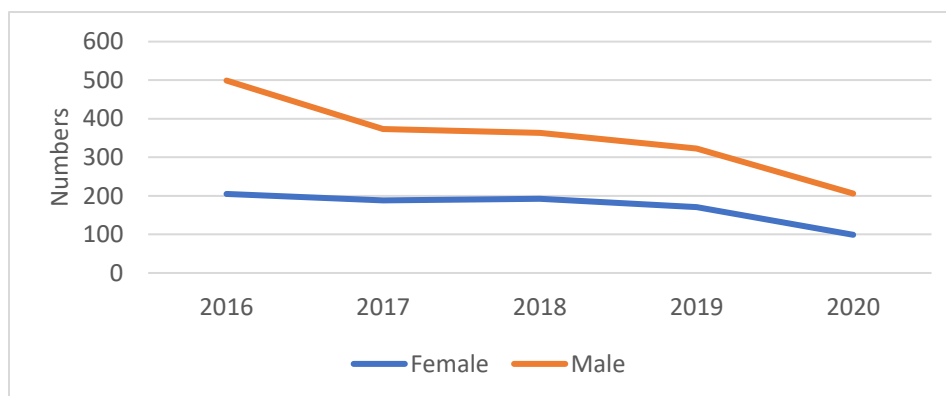


Figure 32. Chronic Hepatitis C Counts by sex, 2016-2020

Figure 33 compares chronic hepatitis case counts by age groups in 2016-2020. The case counts are highest in the age group of 40 years and above from 2016 through 2020. The highest case counts in the age group of 40 and above years was 505 in 2016 and the lowest count was 181 cases in 2020. Age groups 30-39 and 20-29 years had low case counts, age group 30-39 years case count was slightly higher compared to age group 20-29 years. Age group below 15 years (not shown) had a very low case count with a monthly average of 5 cases.

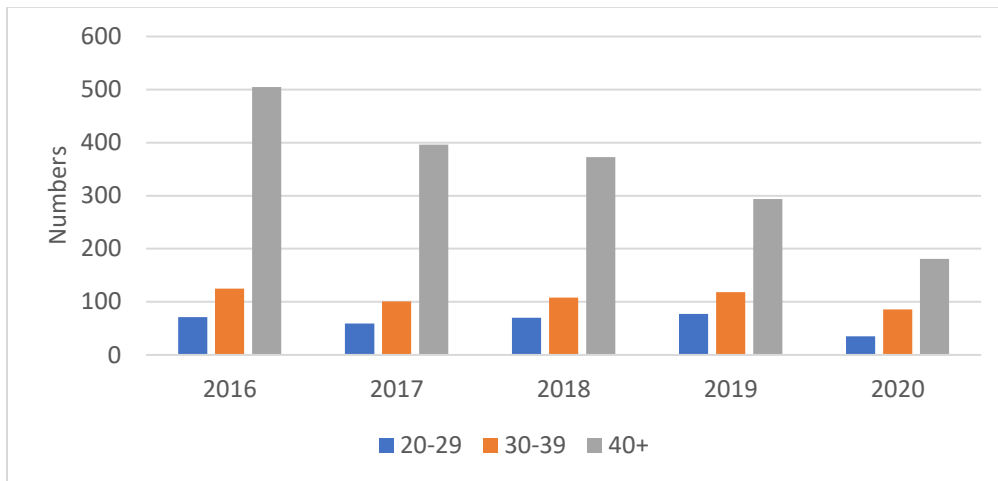


Figure 33. Chronic Hepatitis C Counts by age group, 2016-2020

Figure 34 shows a comparison of chronic hepatitis C case counts by race. Overall case counts are higher in African-Americans or Blacks in all the 5 years reported (2016-2020), and the case counts are nearly twice when compared to Whites. The highest case count in Blacks was 322 cases in 2016. The case counts gradually decreased to the lowest case counts of 117 cases in 2020. The highest case count in Whites was 126 cases in 2016. The zero counts also gradually decreased in this race to the lowest case counts of 77 cases in 2020. A large proportion of cases were not categorized according to their races and this may explain why other minority races were not reported.

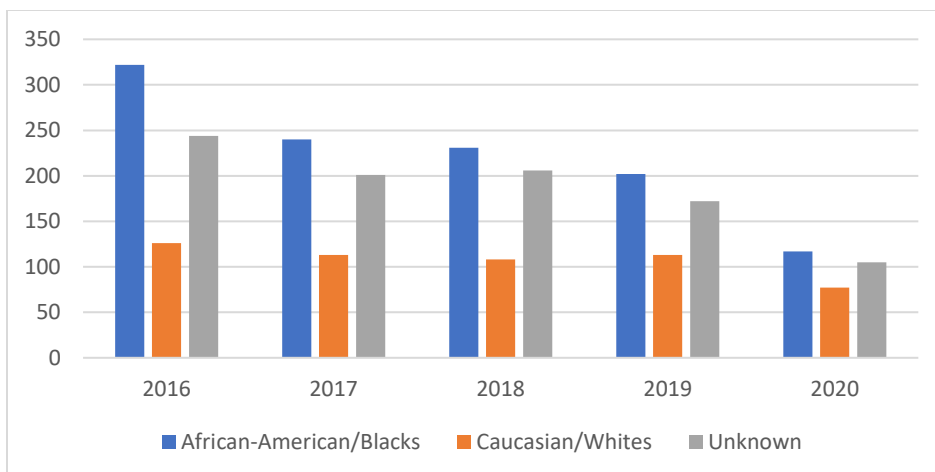


Figure 34. Chronic Hepatitis C Counts by race, 2016-2020

A map in **Figure 35** below shows that the hepatitis C incident rate per 1,000 residents by ZIP codes. The incident rate is high in the northern side of the city when compared with other areas of the city; however, there is a notable spot of ZIP code 63111 in the South with a high hepatitis C incidence rate (2.0 – 6.8 per 1,000 population). ZIP codes in the north with high incidence rates include 63147, 63107, 63102, 63113, 63106, and 63101 incidence rates between 1.12 and 6.82 per 1,000 population. ZIP codes in the South and few in the central have low incidence rate of hepatitis C; ZIP code 63104, 63109, 63110, and 63139 have the lowest incidence rates at below 0.39 per 1,000.

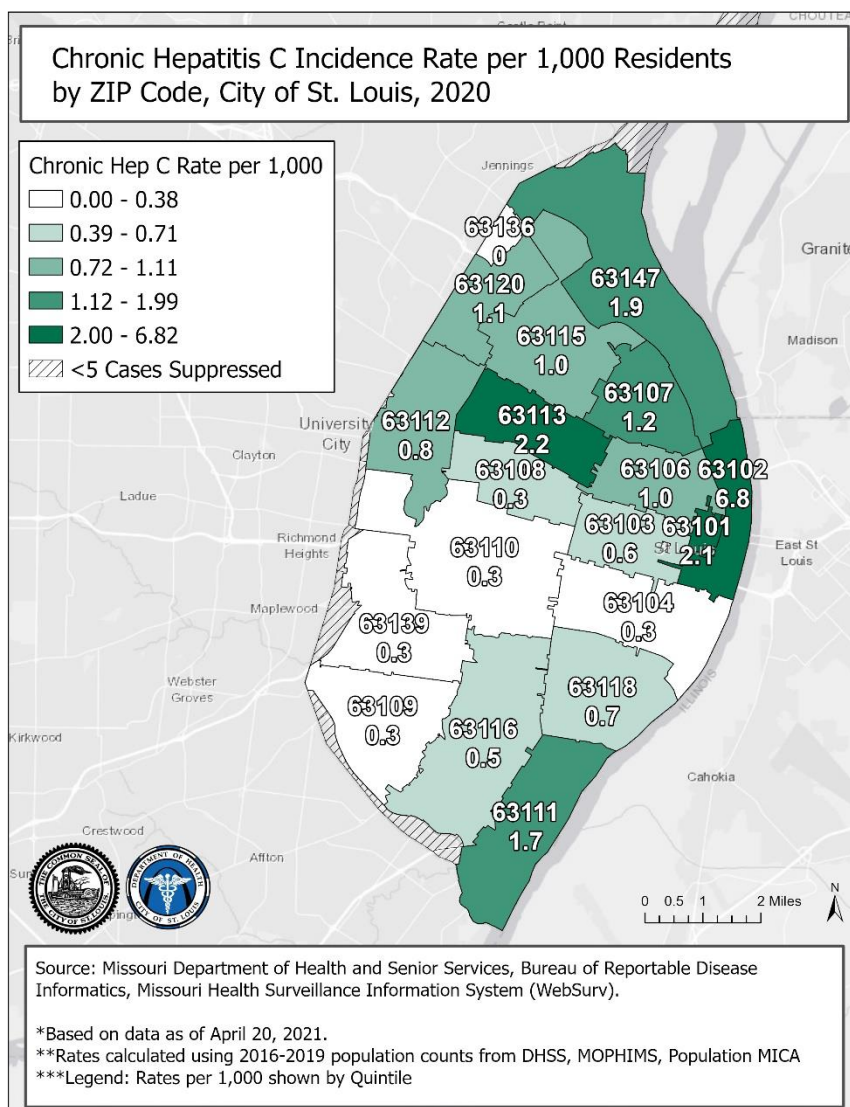


Figure 35. Chronic Hepatitis C Counts by ZIP Code

6.0 Conclusion

2019 and 2020 results should be interpreted with caution by considering the impact of COVID-19 in the diagnosis of STIs, as many people may have gone without testing or treatment. Additionally, while community services continued to be provided, STI outreach screening programs that are dependent on community events were necessarily paused in the City of St. Louis as may be the case to many other counties in the U.S. during COVID-19 pandemic.

The overall incidence of STIs, HIV and hepatitis C is higher in St. Louis City than in the state of Missouri. STIs and HIV are higher in Blacks than all of the other races combined. With the exception of chlamydia, most STIs such as gonorrhea, syphilis, HIV and hepatitis C are higher in men than women. The northern side of the City of St. Louis carries the most significant burden of STI, HIV and hepatitis C infections with high incidence and mortality. Understanding the risk factors of STIs, HIV and hepatitis C highlighted in this report, there is an urgent need to evaluate existing access and interventions, work with community partners and the City of St. Louis government to develop new funding streams for innovative and potentially high impact interventions, and continue to provide education and resources to combat the transmission of STIs.

Data Source

Chlamydia, gonorrhea, syphilis, HIV and hepatitis data for the City of St. Louis were obtained from different sources as outlined below

- **HIV Epidemic Data:**

- <https://health.mo.gov/living/healthcondiseases/communicable/hivaids/index.php>

- **HIV-Related Indicators of Risk Data Hepatitis Surveillance Data, DHSS, WebSurv**

- <https://clphs.health.mo.gov/ehcdp/websurv/>

- **STI Surveillance Data, WebSurv**

- <https://clphs.health.mo.gov/ehcdp/websurv/>